Express Mail Label No.

the specification of which

(check one)

ocket	No.	

6014-1

Page 1 of 3

# Declaration and Power of Attorney For Patent Application English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Radio Frequency Identification Card and Hot Lamination Process for the Manufacture of Radio Frequency Identification Cards

XI	is attached hereto.	
	was filed on	as United States Application No. or PCT International
	Application Number	
	and was amended on	
		(if applicable)
l h	ereby state that I have reviewed a	and understand the contents of the above identified specification

including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Appli	cation(s)		Priority Not Claimed
			, 
(Number)	(Country)	(Day/Month/Year Filed)	
(Number)	(Country)	(Day/Month/Year Filed)	
(Number)	(Country)	(Day/Month/Year Filed)	_

Form PTO-SB-01 (9-95) (Modified)

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P02/REV02

Patent and Trademark Office-U.S. DEPARTMENT OF COMMERCE

60/005,685	10/17/95	
(Application Serial No.)	(Filing Date)	·
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(Application Serial No.)	(Filing Date)	
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statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Form PTO-SB-01 (6-95) (Modified)



Page 3 of 3

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

Steven M. Haas , Reg. No. <u>37,841</u>

Scott M. Oldham, Reg. No. 32,712

Mark A. Watkins, Reg. No. 33,813

Stephen L. Grant, Reg. No. 33,390

Craig E. Miller, Reg. No. 33,427

Louis F. Kreek, Reg. No. 17,241



Send Correspondence to: Steven M. Haas

Oldham & Oldham Co., L.P.A.

1225 West Market Street

Akron, OH 44313-7188

Direct Telephone Calls to: (name and telephone number)

Steven M. Haas (330) 864-5550

Full name of sole or first inventor	
Keith R. Leighton	· .
Sole or first inventor's signature	Date October 5, 1996
Residence Lorain, Ohio	
Citizenship U.S.A.	
Post Office Address 2817 Fulmer Road, Lorain, Ohio 44053	

Consend inventories of anothers	Date
Second Inventor's signature	Date
Residence	
Citizenship	,
Post Office Address	

STATUS (3	TATEMENT (DECL 37 CFR 1.9(f) AND	ARATION) CI 1.27 (b)) - INDI	AIMING SMAL	L ENTITY ENTOR	Docket No. 6014-1
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Invention: Radio	Frequency Identification	on Card and Hot I	amination Frocess ic	i the Manuact	are or raw-o
for purposes of p Trademark Office	ed inventor, I hereby de paying reduced fees und with regard to the inve	der section 41(a) ention entitled abo	and (b) of little 35,	Ollifed States	efined in 37 CFR 1.9 Code, to the Patent a
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Patent and Trademark Office-U.S. DEPARTMENT OF COMMERCE

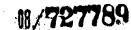
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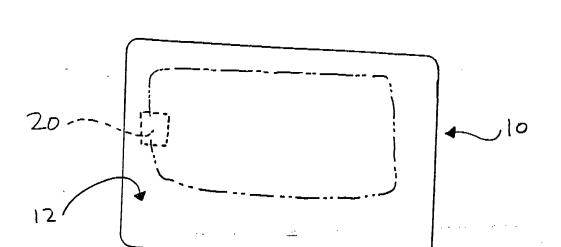
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

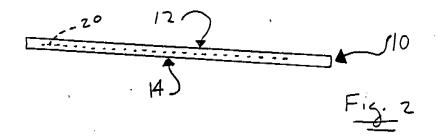
NAME OF INVENTOR Keith R. Leighton		
SIGNATURE OF INVENTOR SIGNATURE OF INVENTOR	DATE:	October 5, 1996
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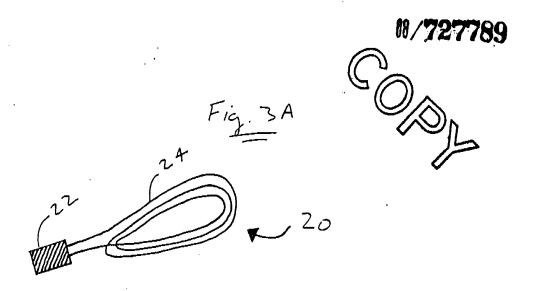
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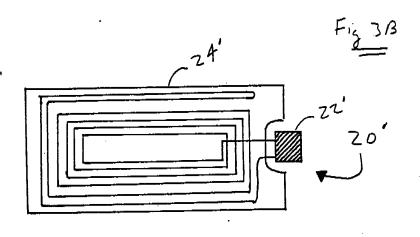


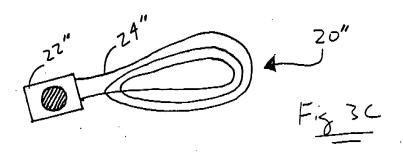


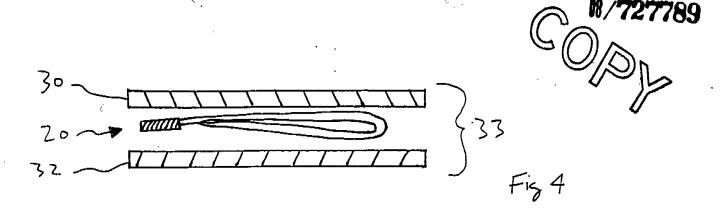


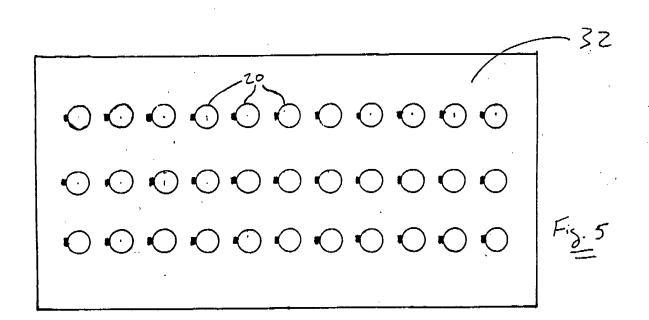




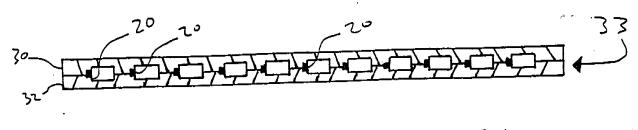




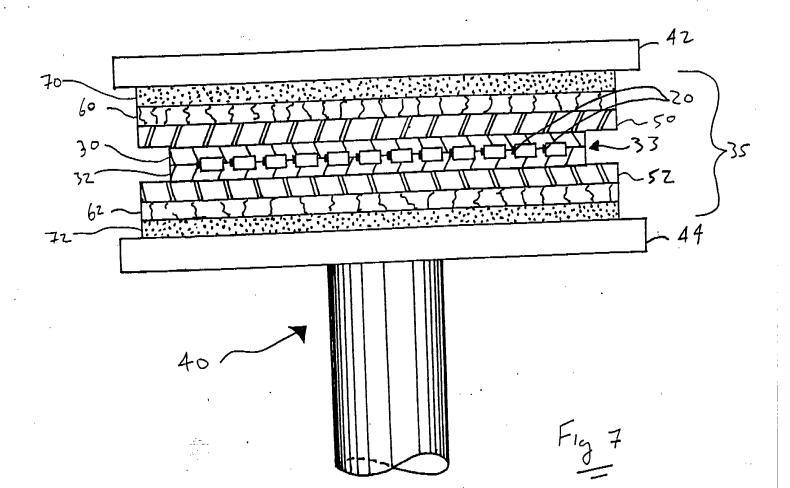




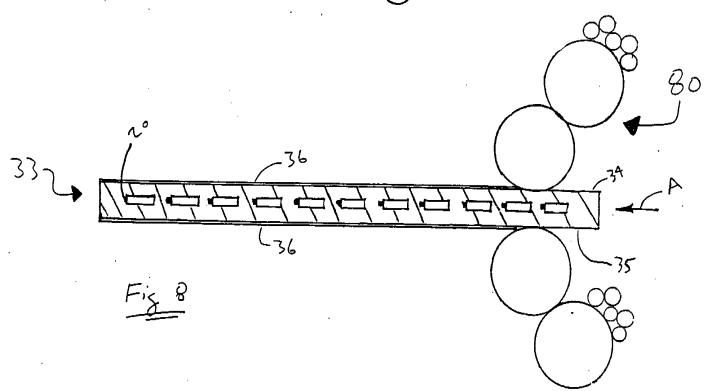


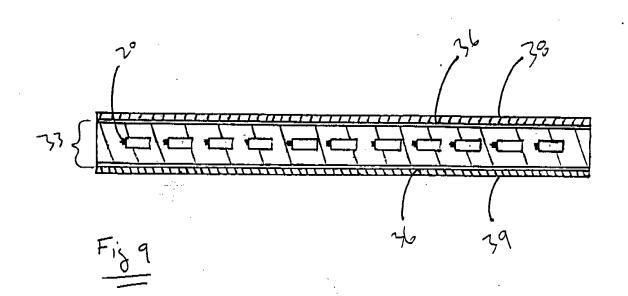




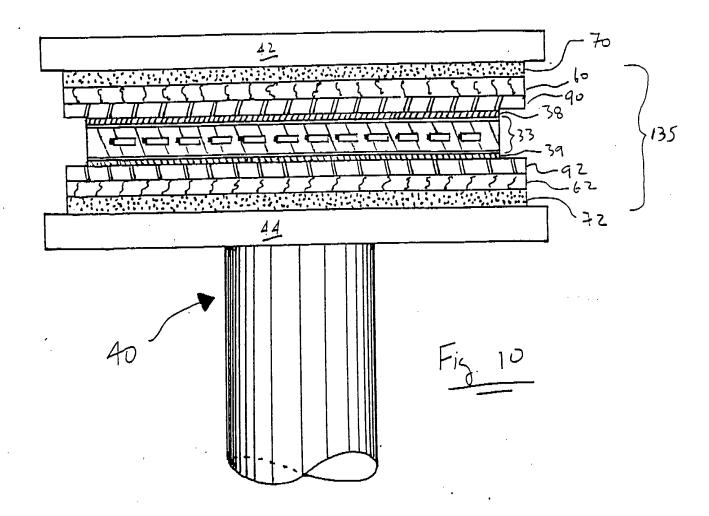












IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

AUG 1 1 1997 policent:

Keith Leighton

Examiner:

# 1/2/U. ~

Serral No:

08/727,789

Art Unit:

1315

Filed:

10/07/96

Date: August 11, 1997

For: RADIO FREQUENCY IDENTIFICATION CARD AND HOT LAMINATION PROCESS FOR THE MANUFACTURE OF RADIO

FREQUENCY IDENTIFICATION CARDS

Commissioner of Patents and Trademarks Washington, D. C. 20231

#### TRANSMITTAL

#### Transmitted herewith:

- 1) Information Disclosure Statement
- 2) PTO Form 1149 and cited references
- 3) Acknowledgement of Receipt/Return Card

OLDHAM & OLDHAM CO., L.P.A.

Mark A. Watkins, Esq

Reg. No.: 33,813

#### **CERTIFICATE OF MAILING (37 CFR 1.10)**

I hereby certify that this paper is being deposited with the United States Postal Service on this date <u>August 11, 1997</u> in an envelope as "Express Mail Post Office to Address" Mailing No. <u>EM449841381US</u> addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Mark A. Watkins, Esq.

AUG 1 1 1997

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Keith Leighton

Examiner:

Serial No:

08/727,789

Art Unit:

1315

Filed:

10/07/96

Date: August 11, 1997

For:

CARD IDENTIFICATION FREQUENCY LAMINATION PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY IDENTIFICATION CARDS

Commissioner of Patents and Trademarks Washington, D.C. 20231

### INFORMATION DISCLOSURE STATEMENT

This Information Disclosure Statement is believed to be filed prior to a first Patent Office Action on the merits and is therefore thought timely.

The filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made (37 CFR §1.56(g)), an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this Information Disclosure Statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13, at 25.

This Information Disclosure Statement is made to comply with the duty of candor imposed on all individuals associated with the filing or prosecution of this application, as defined by 37 CFR §1.56(c).

A list of the patents and other cited references cited by the applicant are enclosed on one sheet of Form PTO-1449 which is attached and made a part hereof. Copies of the references have been enclosed. The relevance of each cited reference is thought to have been sufficiently discussed in the prosecution of the parent applications and, therefore, has

not been recited herein. Should the Examiner desire copies of the references, Applicant's Attorney would readily supply the same.

This Information Disclosure Statement is based on information contained in the undersigned attorney file as of the date of this statement and is inclusive of the best information known to the undersigned at that date.

The Examiner is kindly requested to consider the Information Disclosure Statement in addition to any references identified by the Examiner as a result of his independent search and examination.

Respectfully submitted,

OLDHAM & OLDHAM CO., LPA

Mart

Mark A. Watkins Registration 33,813

MAW/clj

Twin Oaks Estate 1225 West Market Street Akron, OH 44313-7188 (330) 864-5550

Attorney Docket: 6014-1

			· **	•	Docket Number (Optional)	·A	pplication Number		-
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	В	4,980,802	12/25/90	Chan	npagne et al.				
	С	5,097,117	3/17/92	Chan	npagne et al.				
	D	5,438,750	8/8/95	Vena	mbre				
	E	5,567,362	10/22/96	Grun					
	F	4,795,898	1/3/89	Bern	stein et al.				
	G	4,701,236	10/20/87	Vieil	edent				<b>v</b> a
	H	4,792,843	12/20/88	Hagh	iri-Tehrani et al.				
	ī	5,173,840	12/22/92	Koda	i et al.				
	J	5,412,192	5/2/95	Hoss					
FJL	_ K	5,268,699	12/7/93	Laut	e et al.				
			.13	FORE	IGN PATENT DOCUMENT	s			
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EXAMIN consider	ER: Init d. Inclu	ial if citation considered, whet de copy of this form with next	her or not citation is in communication to appl	conforma icant.	nce with MPEP Section 609;	Draw line through	citation if not in	conformanc	e and not
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Form PTO-A820 (also form PTO-1449)





## UNITED STATES PARTMENT OF COMMERCE Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
08/727,789	10/07/96	LEIGHTON	К	6014-1
			,	

13M1/0908

STEVEN M HAAS OLDHAM & OLDHAM CO 1225 WEST MARKET STREET AKRON OH 44313-7188 EXAMINER

LORIN. F

ART UNIT PAPER NUMBER

1301

DATE MAILED: 09/08/97

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

	Application No. 08/727,789	Applicant	s) Leightd	on .
Office Action Summary	Examiner Francis J. I	.orin	Group Art Unit	
Responsive to communication(s) filed on				•
☐ This action is <b>FINAL</b> .				
Since this application is in condition for allowance en in accordance with the practice under Ex parte Quay				rits is closed
A shortened statutory period for response to this action is longer, from the mailing date of this communication. application to become abandoned. (35 U.S.C. § 133). 37 CFR 1.136(a).	Failure to respond wit	hin the per	od for response	will cause the
Disposition of Claims				
X Claim(s) <u>1-22</u>		is/ar	e pending in the	application.
Of the above, claim(s) 20-22		is/are	withdrawn from	consideration.
Claim(s)				
Claim(s)				
☐ Claims				
☐ The drawing(s) filed on is/a ☐ The proposed drawing correction, filed on ☐ The specification is objected to by the Examiner. ☐ The oath or declaration is objected to by the Examiner.	is 🗔		□disapproved.	•
Priority under 35 U.S.C. § 119  Acknowledgement is made of a claim for foreign All Some* None of the CERTIFIED received.  received in Application No. (Series Code/S received in this national stage application for received:  Acknowledgement is made of a claim for domest Attachment(s)  Notice of References Cited, PTO-892 Information Disclosure Statement(s), PTO-1449, Interview Summary, PTO-413 Notice of Draftsperson's Patent Drawing Review, Notice of Informal Patent Application, PTO-152	priority under 35 U.S. copies of the priority deferial Number)  from the International Butic priority under 35 U.S.	ocuments h	ave been  Rule 17.2(a)).	
SEE OFFICE ACTI	ON ON THE FOLLOWING	G PAGES		

U. S. Patent and Trademark Office PTO-326 (Rev. 9-95) Serial Number: 08/727,789

Art Unit: 1301

Page 2

#### **DETAILED ACTION**

#### Election/Restriction

- 1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-19, drawn to a method, classified in class 156, subclass 250.
  - II. Claims 20-22, drawn to an article, classified in class 428, subclass 68.
- 2. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the article can be made by molding rather than laminating.
- 3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
- 4. During a telephone conversation with Mr. Mark Watkins (with examiner William Watkins) on July 30, 1997, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-19. Affirmation of this election must be made by applicant in responding to this Office action. Claims 20-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Serial Number: 08/727,789 Page 3

Art Unit: 1301

#### Claim Rejections - 35 USC § 103

- 5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 6. Claims 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haghiri-Tehrani et al (U.S. Patent No. 4,450,024).

As to sole pending independent claim 1, the reference teaches a lamination process for making an electronic card, see the abstract. Although the reference does not specify the application of a printing layer in the manner recited in the claim, absent any evidence to the contrary, it would have been obvious to one of ordinary skill in the art to apply any layer to those already present in the card during lamination, the application of a printed layer being considered exemplary.

As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated. As to the recitations in the dependent claims regarding various types of materials, these are considered within the purview of one of ordinary skill in the art.

Serial Number: 08/727,789

Page 4

Art Unit: 1301

- 7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Both Yanaka et al (U.S. Patent No. 5,067,008) and Terauchi (U.S. Patent No3. 5,396,650) teach methods for making IC cards.
- 8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis J. Lorin whose telephone number is (703) 308-2061.

Any inquiry of a general nature can be directed to the Group receptionist at (703) 308-0651.

The FAX number for Group art unit 1301 is (703) 305-7115.

FRANCIS J. LOŘÍN PATENT EXAMINER ART UNIT 1301

Francis J. Lorin September 2, 1997

		4.5	<u> </u>	· · · · · · · · · · · · · · · · · · ·				
				Application No. 08/727,789	Applicant(s)	Leighto	'n	
		Notice of Refe	rences Cited	Examiner Francis J.	Lorin -	Group Art Unit	Р	age 1 of 1
-			U.S	S. PATENT DOCUMENTS		1130		
_	<u> </u>	DOCUMENT NO.	DATE	NAM	E		CLASS	SUBCLASS
	А	4,450,024	5/1984	Haghiri-Teh	rani et al		156	108
	В	5,067,008	11/1991	Yanaka	et al		357	81
	С	5,396,650	3/1995	Terau	chi		455	38.2
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U. S. Patent and Trademark Office PTO-892 (Rev. 9-95)

PETITION FOR EX	TENSION OF TIME UN (Small Entity)	DER 37 CFF	R 1.136(a)	Docket No. 6014-1
In Re Applioanon Of: K	eith Leighton	,		#3/1.2000
Serial No. 7RADEM 08/727,789	Filing Date 10/07/96		Examiner Lorin, F.	Group Art Unit
	QUENCY IDENTIFICATION DIO FREQUENCY IDENTIFI			N PROCESS FOR THE
of <u>09/08/97</u> Date	bove-identified application is as follows (check time perior	(a) to extend the tion.  Indicate the desired desired is a second content of the time.	ne period for filing a	response to the Office Action  Five months
from:	12/08/97	until:	01/08/9	98
is enclosed.  In a already been find the fee for the extension in the amount of the commissioner overpayment, to Do A duplicate copy of the commissioner overpayment in the copy of the c	is hereby authorized to charge posit Account No. 15-0450 is this sheet is enclosed. ension of time is required, pleasired to Deposit Account No.	and is to be pa e any fees whi ase consider th 15-0450	aid as follows: ich may be required is a petition therefo A duplicate copy January 8, 1998	d, or credit any  r and charge any additional fees of this sheet is enclosed.
1225 West Market Street Akron, Ohio 44313-7188			onJanuary 8, 1998 first class mail under Assistant, Commission 2023  Signature of Ch	with the U.S. Postal Service as 37 C.F.R. 1.8 and is addressed to the oner for Patents, Washington, D.C.  Person Mailing Correspondence  Description:  Descr

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AMEND Applicant(s): Ke	Docket No. 6014-1								
Serial No.  08/727,789  10/07/96  Examiner Group Art Unit Lorin, F. 1301									
	Invention: RADIO REQUES Y IDENTIFICATION CARD AND HOT LAMINATION PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY IDENTIFICATION CARDS								
Small Ent previously   A verified	TO THE with is an amendment in tity status of this applica y submitted. I statement to establish n calculated and is trans	ation has been est Small Entity statu	ified appl tablished us under :	lication. I under 37 CFR 1.	.27 by a ve	erified statement			
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	CLAIMS REMAINING	HIGHEST #		NUMBER EXTRA	RATE	ADDITIONAL FEE			
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<ul> <li>□ No additional fee is required for amendment.</li> <li>□ Please charge Deposit Account No. in the amount of         A duplicate copy of this sheet is enclosed.</li> <li>□ A check in the amount of to cover the filling fee is enclosed.</li> <li>☑ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No.         A duplicate copy of this sheet is enclosed.</li> <li>☑ Any additional filling fees required under 37 C.F.R. 1.16.</li> <li>□ Any patent application processing fees under 37 CFR 1.17.</li> <li>☑ Dated: January 8, 1998</li> </ul>									
Mark A. Watkins, Reg. No. 33,813 Oldham & Oldham Co., LPA 1225 West Market Street Akron, Ohio 44313-7188  I certify that this document and fee is being deposited on 1-8-78 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.  Signature of Person Mailing Correspondence									

cc:

P11SMALL/REV06

Mark A. WATK'ns

Typed or Printed Name of Person Mailing Correspondence

#4/a V.Say 2/7/98



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner:

Lorin, F.

Serial No.

08/727,789

Keith Leighton

Art Unit:

1301

Filed:

10/07/96

Date:

January 8, 1998

Title: RADIO FREQUENCY IDENTIFICATION CARD AND HOT LAMINATION

PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY

**IDENTIFICATION CARDS** 

Commissioner of Patents and Trademarks

Washington, D.C. 20231

#### **AMENDMENT**

Dear Sir:

In response to the Patent and Trademark Office Action dated September 8, 1997, please amend the above-identified application as follows:

In the claims:

Please delete the following claims: 6, 9, 10, and 19.

Please amend the following claims:

- 1.(Amended) A [hot lamination] process for incorporating at least one electronic element in the manufacture of a plastic card, [said process] comprising the steps of:
  - (a) providing first and second plastic core sheets;
- (b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a [layered] core, said plastic core sheets defining a pair of inner and outer surfaces of said core;
- (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:
  - (i) heating said core [in said laminator,] for a first period of time;



- (ii) [thereafter] applying [ram] a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated [in] by said core[,];
- (iii) [and thereafter] cooling said core [in conjunction with laminator ram] while applying a second pressure [being applied] to said core [, said core including an upper and lower surfaces].
- (d) [printing on] coating at least one of said [upper and lower] outer surfaces of said core [such that] with a layer of ink [is applied to said at least one upper and lower surface of said core]; and
- (e) [positioning said core in a laminator apparatus with a layer of overlaminate film on at least one of said upper and lower surfaces of said core and laminating said] applying a layer of overlaminate film to at least one of said outer surfaces of said core [in said laminator to thereby form a sheet of plastic card stock; and,
  - (f) cutting at least one card from said sheet of plastic card stock].
- 2. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said [step (c) of positioning said core in a] laminator apparatus [is carried out by positioning said core between] has first and second laminating plates, at least one of said first and second laminating plates having a matte finish [to provide at least one of said upper and lower core surfaces with a corresponding] for creating a textured surface on at least one of said outer surfaces of said core.
- 3. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 2, wherein each of said first and second laminating plates [includes] has a matte finish [to provide both of said upper and lower surfaces of said core with a correspondingly] for creating said textured surface on both of said outer surfaces of said core.
- 4. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said first and second plastic core



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sheets are made from a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene-styrene, [wherein] each of said sheets [has] having a thickness in the range of 0.007 [inches] to 0.024 [inches] inch.

5. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 4, wherein said first and second plastic core sheets have a thickness of approximately 0.0125 inch [inches].

(Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein [said step (c5) is carried out with a ram] said second pressure [that] is greater than [the ram] said first pressure [utilized in step (c4)].

8. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim, wherein [the laminator] said second pressure [utilized in step (c5)] is at least approximately 25% greater than [the ram] said first pressure [utilized in step (c4)].

(Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim [6] 1, wherein said [step (c3) is carried out by heating said] core is heated in step (c)(i) to a temperature in the range of [300] 275°F to [370] 400°F and said first period of time is [for] at least five (5) [5 to 10] minutes.

12. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim [11] 1, wherein said [step (c4) is carried out by increasing said laminator ram] first pressure [to a pressure] is approximately [in the range of 700 p.s.i. to] 1000 p.s.i. and said second period of time is [for] at least 10 minutes.

(Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (d) is carried out

utilizing a printing press.

11 (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (d) is carried out utilizing a coating technique [techniques] selected form the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.

(Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (e) [is carried out by positioning said core between first and second sheets of overlaminate film such that a layer of overlaminate film is laminated to both said upper and lower surfaces of said core] of applying a layer of overlaminate film comprises the further steps of:

- (a) positioning an overlaminate film on at least one ink coated surface of said core;
- (b) subjecting said core to a second heat and pressure cycle comprising the steps of:
- (i) heating said core to a temperature between approximately 175°F to 300°F for approximately 10 to 25 minutes;
  - (ii) applying approximately 1000 p.s.i. pressure to said core; and
- (iii) cooling said core to a temperature in the range of approximately 40°F to 65°F for approximately 10 to 25 minutes.

16. (Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated wire antenna.

(Amended) [A hot lamination] The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated circuit board antenna.

18. (Amended) [A hot lamination] The process for incorporating at least one electronic element



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in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a read/write integrated chip and an associated antenna.

Kindly add the following new claims:

A hot lamination process for the manufacture of plastic cards, said process comprising the steps of:

- (a) providing first and second plastic core sheets;
- (b) positioning at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a layered core;
- (c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:
- (i) heating said core in said laminator, in the presence of a minimal first ram pressure, to a temperature which causes controlled flow of said plastic which makes up said first and second plastic core sheets;
- (ii) applying a second pressure uniformly across said core for encapsulating said at least one electronic element within said controlled flow plastic;
- (iii) subsequently cooling said core in conjunction with the concurrent application of a third pressure uniformly across said core, said core including and upper and lower surfaces;
- (d) printing on at least one of said upper and lower surfaces of said core such that a layer of ink is applied to at least a portion of said at least one upper and lower surface of said core.

The method as recited in claim 28 wherein said first and second core layers are devoid of any appreciable cutouts.

#### REMARKS

The Examiner has rejected each of the pending claims, 1-19, under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,450,024 ("the '024 patent) to Haghiri-Tehrani. This rejection is respectfully traversed.

From the Examiner's rejection, it is apparent that the Examiner claims to have found each

of the elements of applicant's claimed invention anticipated by the '024 patent with the exception of the printing step, which the Examiner finds obvious under section 103(a). Applicant maintains that the '024 patent does not teach the process of the present application even in the absence of the printing step.

The '024 patent claims a lamination process for making an electronic card which protects the electronic element of the card by first placing it in a recess formed within a card layer so as to avoid damage to the electronic element from localized pressure applied in the lamination process. The patent then requires that a "buffer zone" be present within the recess. Even the broadest of claims of the '024 patent require a recess and a buffer zone, for and protecting the electronic element. These are required by the '024 invention in order to enable the card assembly to be subjected to a full laminating pressure.

No such protective elements are desired or necessary to the invention of the present application. Further, the invention taught by the '024 patent requires that the electronic element also be placed in a protective carrier disk (6), which is subsequently located within the recess.

The controlled use of a heat and pressure cycle of the present invention eliminates the requirement of both a protective carrier disk for the electronic element and/or a recess or other buffer zone formed in one or more of the card layers for carrying and protecting the electronic element. The process of the present invention allows the electronics-containing core to be subjected to the full laminating pressure without use of a recess in a card layer. Unlike anything shown in the prior art, the electronic unit is placed directly between two (2) plastic sheets. Admittedly, the '024 patent does make reference to card forming processes which vary pressure with temperature. '024 Patent, col.6, ln. 30-46. However, there is nothing in the '024 patent which suggests the heat and pressure cycle of the present invention. The '024 patent merely discusses the variation of pressure with temperature, it does not suggest a sequence of steps or the duration of steps which might be used to encapsulate an electronic element by a plastic card. The '024 patent does not discuss a cooling step, nor does it propose a solution to the relative pressures to be applied in the steps of the cycle.

The Examiner correctly notes that it is well within the purview of one of ordinary skill in the art to vary temperature with the type of material being laminated. However, the present invention involves more than controlling pressure as a function of temperature; the present

invention claims a coordinated heat and pressure cycle which uses multiple temperatures, pressures and time periods for a single material. The dependent claims include limitations on the ratio of pressures to be applied at various stages of the process as well as specific temperature ranges and time periods for each step. Claim 15 includes a further heat and pressure cycle to be used in the overlamination step, a step which doesn't involve protecting the electronic element.

The amendments made to the claims have not been made to avoid the 103(a) rejection. It is believed that the claims as originally submitted are unobvious over the '024 patent. The amendments were made to clarify claim language and to insure consistent language throughout both the specification and the claims.

It is believed that this application as amended is in condition for allowance. Such action is respectfully requested.

Respectfully submitted, OLDHAM & OLDHAM CO., LPA

Mark A. Watkins, Esq. Registration No. 33, 813

Twin Oaks Estate 1225 West Market Street Akron, Ohio 44313-7188 (330)864-5550

Attorney Docket No. 6014-1

	Application No.	Applicant(s)		
AL 1"	08/727,789		Leightor	n
Notice of Allowability	Examiner Francis J. Lo	orin	Group Art Unit 1733	
All claims being allowable, PROSECUTION ON THE MERIT herewith (or previously mailed), a Notice of Allowance an mailed in due course.	TS IS (OR REMAINS) ( Id Issue Fee Due or otl	CLOSED in the ner appropri	this application. ate communica	If not included tion will be
X This communication is responsive to amendment filed	1/12/98			· ·
X The allowed claim(s) is/are 1-5, 7, 8, 11-18, 23, and 2	24			
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<ul> <li>□ Acknowledgement is made of a claim for foreign priori</li> <li>□ All □ Some* □ None of the CERTIFIED copies</li> <li>□ received.</li> <li>□ received in Application No. (Series Code/Serial Note of the CERTIFIED copies</li> <li>□ received in Application No. (Series Code/Serial Note of the CERTIFIED copies</li> </ul>	s of the priority docum	nents have		B -13-78 FJL
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A SHORTENED STATUTORY PERIOD FOR RESPONSE to THREE MONTHS FROM THE "DATE MAILED" of this Off ABANDONMENT of this application. Extensions of time in Note the attached EXAMINER'S AMENDMENT or NOT that the oath or declaration is deficient. A SUBSTITUT	ice action. Failure to nay be obtained under TCE OF INFORMAL AI	timely comp the provisi PLICATION	oly will result in ons of 37 CFR 1 I, PTO-152, wh	I.136(a).
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including changes required by the Notice of Draftsp to Paper No			PTO-948, attach	ned hereto or
including changes required by the proposed drawing approved by the examiner.	g correction filed on _		, whic	ch has been
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Identifying indicia such as the application number (see drawings. The drawings should be filed as a separate Draftsperson.	37 CFR 1.84(c)) shou paper with a transmit	ld be writte tal lettter ac	n on the reverse Idressed to the	e side of the Official
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Any response to this letter should include, in the upper rig CODE/SERIAL NUMBER). If applicant has received a Notic and DATE of the NOTICE OF ALLOWANCE should also be	ce of Allowance and Is	PPLICATION Sue Fee Du	N NUMBER (SEF e, the ISSUE BA	RIES ATCH NUMBER
Attachment(s)  Notice of References Cited, PTO-892  Information Disclosure Statement(s), PTO-1449, Pa  Notice of Draftsperson's Patent Drawing Review, P  Notice of Informal Patent Application, PTO-152  Interview Summary, PTO-413  Examiner's Amendment/Comment  Examiner's Comment Regarding Requirement for De-	TO-948	terial		
☐ Examiner's Statement of Reasons for Allowance				

U. S. Patent and Trademark Office PTO-37 (Rev. 9-95) Serial Number: 08/727,789

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Page 2

Art Unit: 1733

- 1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- The application has been amended as follows:Claims 20-22 have been canceled without prejudice as being directed to a non-elected invention.
- 3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis J. Lorin whose telephone number is (703) 308-2061.

Any inquiry of a general nature can be directed to the Group receptionist at (703) 308-0651.

The FAX number for any <u>official papers</u> (i.e., papers that will be entered as part of the file wrapper) for Group Art Unit 1733 is (703) 305-3601.

Any <u>unofficial papers</u> (e.g., proposed amendments) can be submitted by FAX using 305-7115.

FRANCIS J. LORIN PRIMARY EXAMINER ART UNIT 1733

Francis J. Lorin April 13, 1998



## UNITED STATES DEPARTMENT OF COMMERCE Patent and Trademark Office

Address:

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#### NOTICE OF ALLOWANCE AND ISSUE FEE DUE

IM61/0414

STEVEN M HAAS OLDHAM & OLDHAM CO 1225 WEST MARKET STREET AKRON OH 44313-7188

APPLICATION NO.	FILING DATE	TOTAL CLA	IMS EXAMINER A	ND GROUP ART UNIT	DATE MAILED
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TITLE OF

INVENTIONADIO FREGUENCY IDENTIFICATION CARD AND HUT LAMINATION PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY IDENTIFICATION CARDS

[	. ATT	Y'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
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THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN <u>THREE MONTHS</u> FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. <u>THIS STATUTORY PERIOD CANNOT BE EXTENDED.</u>

#### **HOW TO RESPOND TO THIS NOTICE:**

- Review the SMALL ENTITY status shown above.
   If the SMALL ENTITY is shown as yes, verify your current SMALL ENTITY status:
  - A. If the status is changed, pay twice the amount of the FEE DUE shown and notify the Patent and Trademark Office of the change in status, or
  - B. If the status is the same, pay the FEE DUE shown above.
- If the SMALL ENTITY is shown as NO:
- A. Pay FEE DUE shown above, or
- B. File verified statementof Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.
- II. Part B of this notice should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "6b" of Part B should be completed.
- III. All communications regarding this application must give application number and batch number. Please direct all communication prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

#### PAR' \_\_\_ISSUE FEE TRANSMITTAL

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MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE. Blocks 2 through 6 should be completed where appropriate. All futher correspondence including the issue Fee Receipt, the Patent, advance orders and notification of maintenance fees will be mailed to addresses entered in Block 1 unless you direct otherwise, by: (a) specifying a new correspondence address in Block 3 below; or (b) providing the PTO with a separate "FEE ADDRESS" for maintenance fee notifications with the payment of issue Fee or thereafter. See reverse for Certificate 3 Mailing, below. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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implete this form should be sent to the Chief Information Officer, Patent and Trademark Office ashington, D.C. 20231.		Street Address			
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First Named Applicant LEIGHTON, KEITH R.					
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**PATENT** 

17N1

DOCKET NO: 6014-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

application of:

Keith Leighton

Date:

July 1, 1998

08/727,789

Group No.:

1733

Filed:

10/07/96

Examiner:

Lorin, F.

For:

RADIO FREQUENCY IDENTIFICATION CARD AND HOT LAMINATION

PROCESS FOR THE MANUFACTURE OF RADIO FREQUENCY

**IDENTIFICATION CARDS** 

Commissioner of Patents & Trademarks

Washington, D.C. 20231

ATTENTION: Official Draftsman

TRANSMITTAL OF FORMAL DRAWING(S) IN RESPONSE TO NOTICE OF ALLOWANCE

Attached please find the formal drawings for this application.

Reg. No.: 33,813

Tel. No.: (330) 864-5550

Mark A. Watkins

(type or print name of signer)

1225 West Market Street

P. O. Address

Akron, OH 44313-7188

"Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (in any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing a minimum distance of 1.5 cm (%inch) down from the top of the page." 37 CFR §1.84(c).

**CERTIFICATE OF MAILING (37 CFR 1.8)** 

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Mark A. Watkins

(type or print name of person signing)

Date: June 18, 1998

(Signature of person mailing paper)

5817209 10/6

**DOCKET NO.: ABTT-0133/B920431** 

**PATENT** 

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Vladimir M. Segal

Serial No.:

08/754,984

Group Art Unit: 1733

Filed:

November 22, 1996

Examiner: F. Lorin

For:

ADHESIVE BONDING SYSTEM FOR BONDING LAMINAE TO FORM A

ration No. 24,053 certify that this correspondence is being deposited with the U.S. in an envelope addressed to the Assistant Commissioner for Patents, Washington,

**Assistant Commissioner** for Patents
BOX ISSUE FEE

Washington, D.C. 20231

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AUG - 3 1998

Dear Sir:

11

#### **COMMUNICATION**

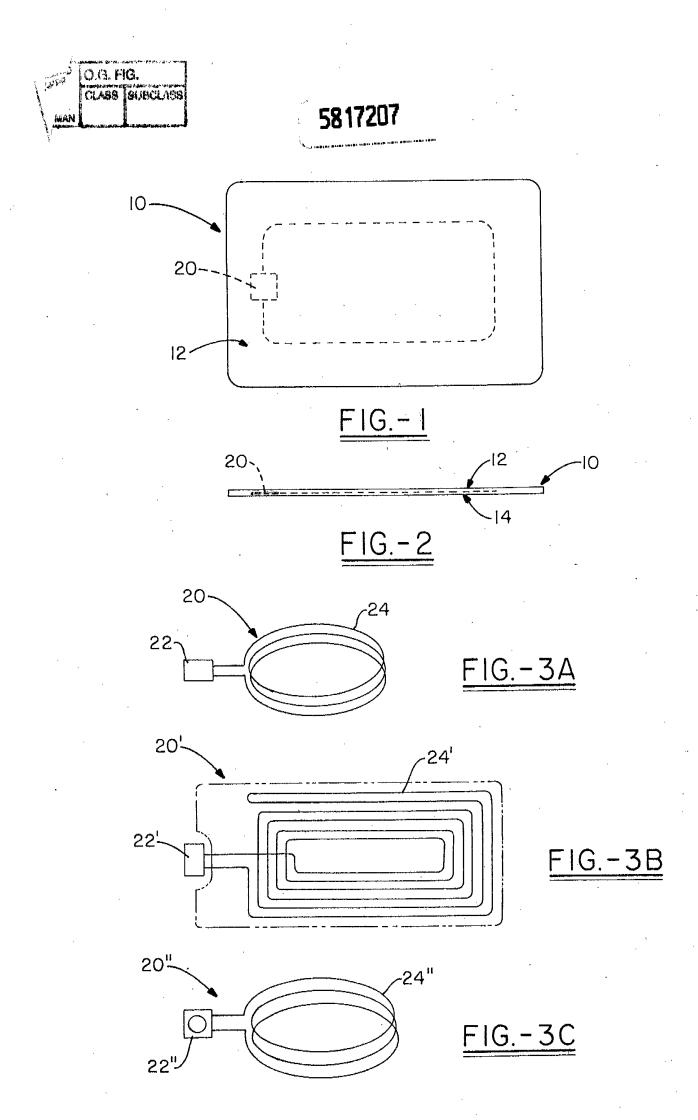
Applicant became aware of the attached reference less than three (3) months ago, after the issue fee had been paid. This reference resulted from a Supplementary European Search Report dated June 18, 1998. Applicant respectfully requests that this reference be placed in the file of the aboveidentified application.

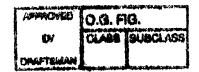
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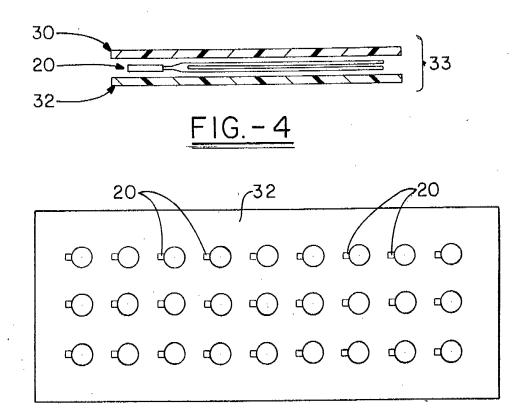
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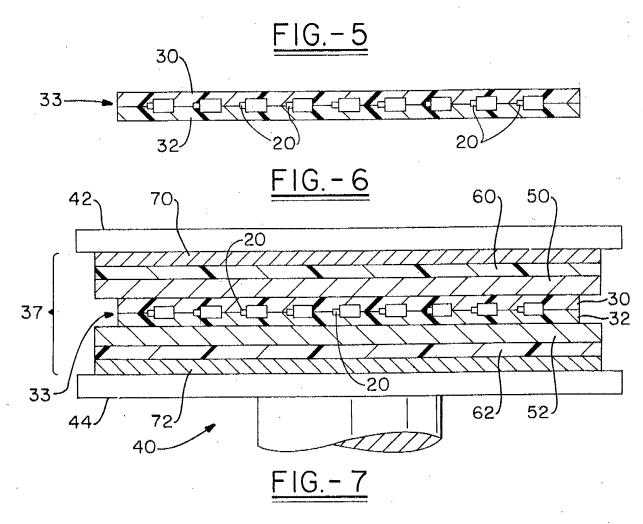
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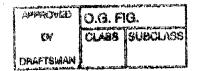
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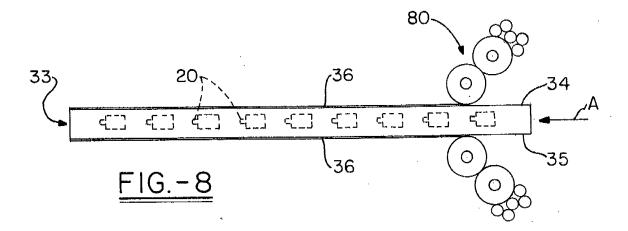


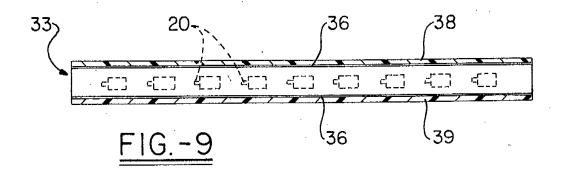


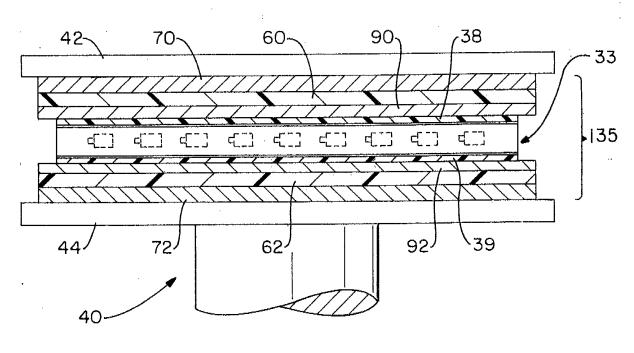












<u>FIG.-10</u>

## PTO UTILITY GRANT Paper Number

# The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

## Therefore, this

## United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to an statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension

Suce Teloras
Commissioner of Patents and Trademarks

Form PTO-1584 (Rev. 2/97)

The United

States

América

/ j Application or Docket Number PATENT APPLICATION FEE DETERMINATION RECORD 727789 Effective October 1, 1996 **CLAIMS AS FILED - PART I** OTHER THAN **SMALL ENTITY SMALL ENTITY** (Column 1) (Column 2) OR FOR NUMBER EXTRA NUMBER FILED RATE FEE RATE FEE BASIC FEE 385.00 770.00 OR TOTAL CLAIMS 22 2 minus 20 = x\$11=x\$22= 22 OR 2 INDEPENDENT CLAIMS minus 3 = x40 =x80 =OR MULTIPLE DEPENDENT CLAIM PRESENT +130= +260= OR If the difference in column 1 is less than zero, enter "0" In column 2 4*0*7 **TOTAL** TOTAL OR **CLAIMS AS AMENDED - PART II** OTHER THAN **SMALL ENTITY** OR **SMALL ENTITY** (Column 1) (Column 2) (Column 3) CLAIMS HIGHEST REMAINING **PRESENT** ADDI-ADDI-NUMBER **AFTER** RATE TIONAL RATE TIONAL **PREVIOUSLY EXTRA** ENDMENT **AMENDMENT** FEE FEE PAID FOR Total Minus x\$11=x\$22= = OR Independent Minus x40 =OR x80 =FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM +130= OR +260= TOTAL TOTAL OR ADDIT. FEE ADDIT. FEE (Column 3) (Column 1) (Column 2) **CLAIMS** HIGHEST ADDI-**REMAINING PRESENT** ADDI-NUMBER **AFTER EXTRA** RATE **TIONAL** RATE TIONAL **PREVIOUSLY** ENDMENT FEE **AMENDMENT** FEE PAID FOR Total Minus x\$11=OR x\$22= \*\*\* Independent Minus x40= OR x80 =FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM +130= +260= TOTAL TOTAL OR ADDIT. FEE ADDIT: FEE (Column 1) (Column 3) (Column 2) CLAIMS HIGHEST ADDI-ADDI-REMAINING PRESENT NUMBER TIONAL RATE RATE TIONAL AFTER **PREVIOUSLY EXTRA** ENT FÉE FEE. **AMENDMENT** PAID FOR ENDM Total Minus x\$22= x\$11= OR Independent Minus x80 =x40 =OR FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM. OR +130= +260= if the entry in column 1 is less than the entry in column 2, write "0" in column 3.

If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20; enter "20."

ADDIT, FEE

OR

ADDIT, FEE

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1. OR ADDIT FEE

FORM **PTO-875** 

U.S. Government Printing Office: 1996 - 413-288/49191

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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